

5

## CLAIMS

semiconductor a for substrate, ceramic producing/examining device, having a conductor formed inside thereof or on the surface thereof,

wherein said ceramic substrate has been sintered such that a fractured section thereof exhibits intergranular fracture.

semiconductor for substrate ceramic The producing/examining device according to claim 1, 10

wherein an average diameter of ceramic grains of said fractured section is 0.5 to 10  $\mu$ m.

semiconductor for substrate ceramic The 3. producing/examining device according to claim 1, 15

wherein an impurity element is locally distributed in boundaries of ceramic grains of said fractured section.

- semiconductor substrate for ceramic The 4. producing/examining device according to claim 1, wherein thermal conductivity of said ceramic substrate 20 is 100 W/m·K or more.
- semiconductor for а substrate ceramic The producing/examining device according to claim 1, 25

wherein said ceramic substrate is constituted such that: an impurity-existent area where an impurity element is locally distributed in triple points of crystal grains, and an impurity element-nonexistent area where an impurity is not locally distributed in the triple points of the crystal

RECEIVED 30 grains,

coexist therein.

APR 1 4 2004 TECHNOLOGY CENTER R3700

FOR INFORMATION DISCLOSURE PURPOSES ONLY

Related Pending Application Related Case Serial No: 10 759.083 Related Case Filing Date: 01-20-04